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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/903,339	07/10/2001	Naoto Kusumoto	07977-010004	8970

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EXAMINER

DOAN, THERESA T

ART UNIT

PAPER NUMBER

2814

DATE MAILED: 01/15/2003

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/903,339

Examiner

Theresa T Doan

Applicant(s)

KUSUMOTO ET AL.

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 03 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 17 December 2002.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-30 is/are pending in the application.
- 4a) Of the above claim(s) 1-24 is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 25-30 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on _____ is: a) ☐ approved b) ☐ disapproved by the Examiner.
- If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

- 13) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
 - ☒ Certified copies of the priority documents have been received in Application No. 08/604,547.
 - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
- a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892) 4) ☐ Interview Summary (PTO-413) Paper No(s). _____
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948) 5) ☐ Notice of Informal Patent Application (PTO-152)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449) Paper No(s) 4,5,10,12. 6) ☐ Other: _____

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DETAILED ACTION

Election/Restrictions

1. Applicant's election without traverse of claims 25-30 in Paper No. 13 is acknowledged.

Claim Objections

2. Claims 25-30 are objected to because of the following informalities:

The limitation of "a CW laser" as recited in claims 25 and 28 should be changed to "a continuous wave laser". Appropriate correction is required.

Claim Rejections - 35 USC § 102

3. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in a patent granted on an application for patent by another filed in the United States before the invention thereof by the applicant for patent, or on an international application by another who has fulfilled the requirements of paragraphs (1), (2), and (4) of section 371(c) of this title before the invention thereof by the applicant for patent.

The changes made to 35 U.S.C. 102(e) by the American Inventors Protection Act of 1999 (AIPA) do not apply to the examination of this application as the application being examined was not (1) filed on or after November 29, 2000, or (2) voluntarily published under 35 U.S.C. 122(b). Therefore, this application is examined under 35 U.S.C. 102(e) prior to the amendment by the AIPA (pre-AIPA 35 U.S.C. 102(e)).

next time object Drawing (Fig 3A-3D -- prior Art. --)

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4. Claims 25-27 are rejected under 35 U.S.C. 102(e) as being anticipated by Zhang et al. (5,508,209) of record.

Zhang et al. teach in figures 5A-5F a method of manufacturing a semiconductor device comprising the steps of:

forming an amorphous silicon semiconductor film 203 over a substrate 201;

irradiating the amorphous silicon semiconductor film with a second harmonic of a continuous wave laser comprising Nd which is an Nd:YAG laser to crystallize the amorphous semiconductor film (column 9, lines 3-10); and

patterning the crystallized semiconductor film 203 to form an active layer including at least a channel formation region (see figure 5C).

Claim Rejections - 35 USC § 103

5. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

6. Claims 25-27 are rejected under 35 U.S.C. 103(a) as being unpatentable over Asano (5,409,867).

Asano teaches in figures 1a-1e and columns 2-4 a method of manufacturing a semiconductor device comprising the steps of:

forming an amorphous silicon semiconductor film 2 over a substrate 1;

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irradiating the amorphous silicon semiconductor film with a second harmonic of a continuous wave laser type YAG laser to crystallize the amorphous semiconductor film (column 2, lines 36-64; column 3, lines 63-68 and column 4, lines 1-22).

Asano does not teach that the crystallized silicon film is patterned to form an active layer including at least a channel formation region. However, the text of Asano teaches that a polycrystalline semiconductor film can be used as a raw material for an active region of a semiconductor element (column 4, lines 20-22) in order to operate the device in its intended use. Given the above teaching, it would have been obvious to one having ordinary skill in the art at the time of the invention was made to modify the technique of Asano that can be used an active region of a semiconductor element to form a channel region in order to apply the device to a particular application.

7. Claims 28-30 are rejected under 35 U.S.C. 103(a) as being unpatentable over Asano (5,409,867) in view of Tamura et al. (4,498,951).

Asano teaches substantially the entire claimed structure, as applied to claim 25 above except for irradiating the amorphous silicon semiconductor film with a third harmonic of a continuous wave laser type YAG laser.

Tamura et al. teach in column 4, lines 8-20 that the irradiating intensity is properly adjusted in correspondence with different wavelengths of the respective lasers in order to operate the device in its intended use. Given the above teaching, it would have been obvious to one having ordinary skill in the art at the time of the invention was

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made to modify a third harmonic of a continuous wave laser in Asano's device as taught by Tamura et al. in order to operate the device in its intended use.

Double Patenting

8. The nonstatutory double patenting rejection is based on a judicially created doctrine grounded in public policy (a policy reflected in the statute) so as to prevent the unjustified or improper timewise extension of the "right to exclude" granted by a patent and to prevent possible harassment by multiple assignees. See *In re Goodman*, 11 F.3d 1046, 29 USPQ2d 2010 (Fed. Cir. 1993); *In re Longi*, 759 F.2d 887, 225 USPQ 645 (Fed. Cir. 1985); *In re Van Ornum*, 686 F.2d 937, 214 USPQ 761 (CCPA 1982); *In re Vogel*, 422 F.2d 438, 164 USPQ 619 (CCPA 1970); and, *In re Thorington*, 418 F.2d 528, 163 USPQ 644 (CCPA 1969).

A timely filed terminal disclaimer in compliance with 37 CFR 1.321(c) may be used to overcome an actual or provisional rejection based on a nonstatutory double patenting ground provided the conflicting application or patent is shown to be commonly owned with this application. See 37 CFR 1.130(b).

Effective January 1, 1994, a registered attorney or agent of record may sign a terminal disclaimer. A terminal disclaimer signed by the assignee must fully comply with 37 CFR 3.73(b).

9. Claims 25-30 are rejected under the judicially created doctrine of double patenting over claims 17-21, 22-27, 34-43, 48-56 and 61-80 of U. S. Patent No. 6,204,099 since the claims, if allowed, would improperly extend the "right to exclude" already granted in the patent.

The subject matter claimed in the instant application is fully disclosed in the patent and would be covered by the patent since the patent and the application are claiming common subject matter, as follows: both U.S. Patent and instant application claimed a method of manufacturing a semiconductor layer comprises amorphous silicon. Moreover, even though claim 25, for example of the instant application 09/903,339 does not use exactly the same word, for example, "a second harmonic of a continuous wave laser comprising Nd...", and the U. S. Patent No. 6,204,099 recites "a

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second harmonic component of an Nd:YAG laser...", that shows no different meaning between these two elements. The fact is that the claims of the U. S. Patent No.

6,204,099 have claimed the same goal and are not distinguished from each other.

Furthermore, there is no apparent reason why applicant was prevented from presenting claims corresponding to those of the instant application during prosecution of the application which is matured into a patent. See *In re Schneller*, 397 F.2d 350, 158 USPQ 210 (CCPA 1968). See also MPEP § 804.

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Theresa T Doan whose telephone number is (703) 305-2366. The examiner can normally be reached on Monday to Thursday from 8:00AM - 6:00PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, WAEL FAHMY can be reached on (703) 308-4918. The fax phone numbers for the organization where this application or proceeding is assigned are (703) 308-7722 for regular communications and (703) 308-7724 for After Final communications.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703) 308-0956.

TD
January 7, 2003


PHAT X. CAO
PRIMARY EXAMINER